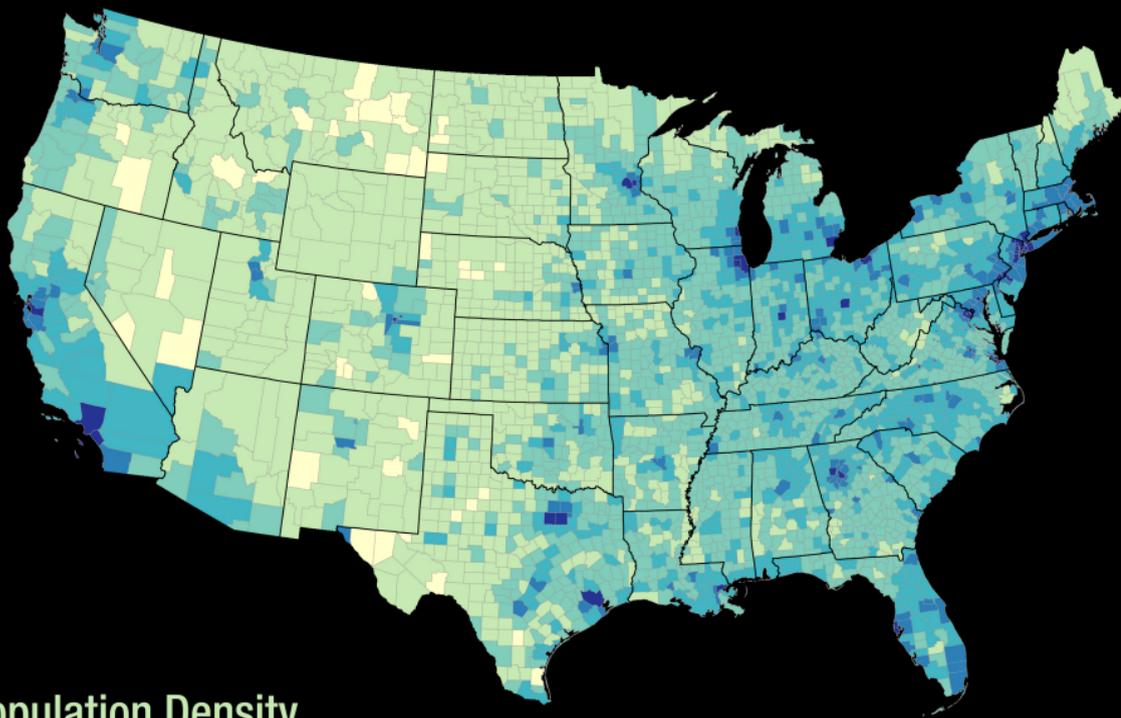
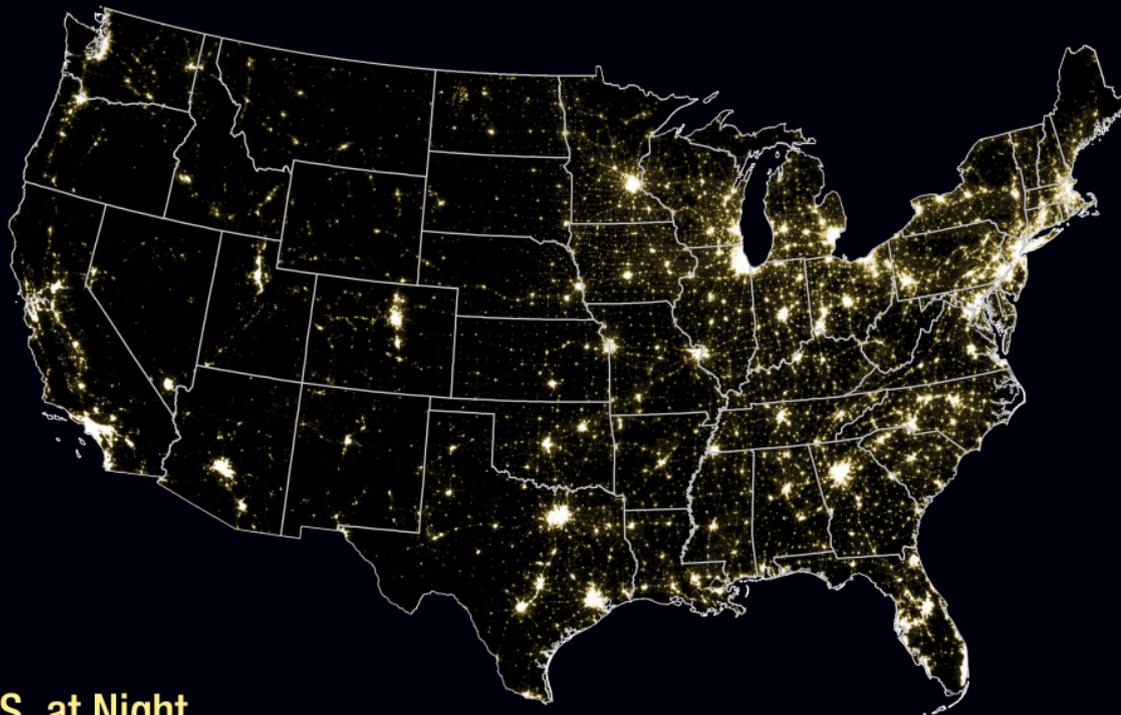


Nitrogen Dioxide (NO₂)



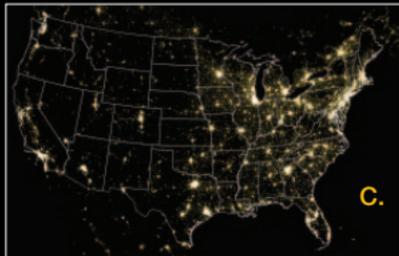
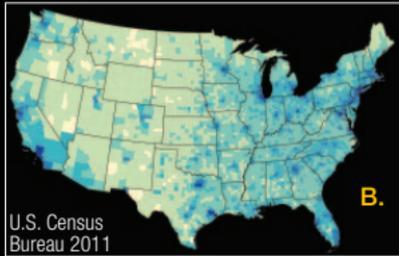
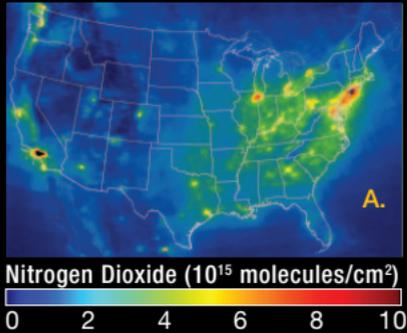
Population Density

National Aeronautics and Space Administration



U.S. at Night

Assessing Air Quality from Space: Population and Air Pollution



The Ozone Monitoring Instrument (OMI), onboard the Earth Observing Satellite Aura, measures the air pollutant nitrogen dioxide (NO_2) from high above the Earth's surface. (See map **A.** at left.) NO_2 is released into the air by burning coal, gasoline, and other fossil fuels. NO_2 is unhealthy to breathe and also reacts with other gases to produce high levels of ozone, which is dangerous to breathe, harmful to plants, and a greenhouse gas.

In the United States, population density (**B.**) is an excellent indicator of air pollution levels. The highest levels of NO_2 are found in cities such as Los Angeles, Chicago, and New York. Much cleaner air is found in less populated areas such as in Montana and Wyoming.

The intensity of city lights (**C.**), measured by the Defense Meteorological Satellite Program (DMSP) Operational Linescan System (OLS), is a second excellent indicator of pollution. The brightest lights coincide with the most urbanized, populated, and, consequently, polluted areas in the U.S.

More information about the Aura satellite and the research being carried out with Aura data is available at <http://aura.gsfc.nasa.gov/>.